United States Department of Agriculture

NRCS

Natural Resources Conservation Service, 100 USDA, Suite 206, Stillwater, OK 74074-2265 (405) 742-1256

June 3, 2004

OKLAHOMA BULLETIN NO. OK210-4-11

SUBJECT: ENG – Dry Stack/Composter and Cakeout Storage Structures

Purpose: To provide new Oklahoma Drawing OK-DWG-No. 414o.

Expiration Date: September 30, 2004

Oklahoma Bulletin OK210-4-10 provided a revised OK-DWG-No. 414 that included major revisions to the stem wall design so that a longer truss leg length could be used. Requests have been received to keep the old drawing, to be used by individuals not desiring a longer truss leg and not wanting to increase the stem wall width.

A new number has been given to the previous versions of OK-DWG-No. 414 and the previous drawing is being released as OK-DWG-No. 414o. OK-DWG-No. 414o includes a few minor revisions, including:

Sheet No. 1:
a. Gable end on the rear will be closed with metal siding down to the header.
b. Gable end on the front may be open if desired.

Sheet No. 4:
a. "Galvanized" has been added to the nail connections note.

Sheet No. 5:
a. Note #4 has been revised to remove CCA as the treatment method and to only require treated lumber.

OK-DWG-No. 414o is attached. Either OK-DWG-No. 414 or OK-DWG-No. 414o may be used for Dry Stack/Composter and Cakeout Storage Structures designs. All Oklahoma standard drawings can be accessed from:

http://www.ok.nrcs.usda.gov/technical/drawings.html

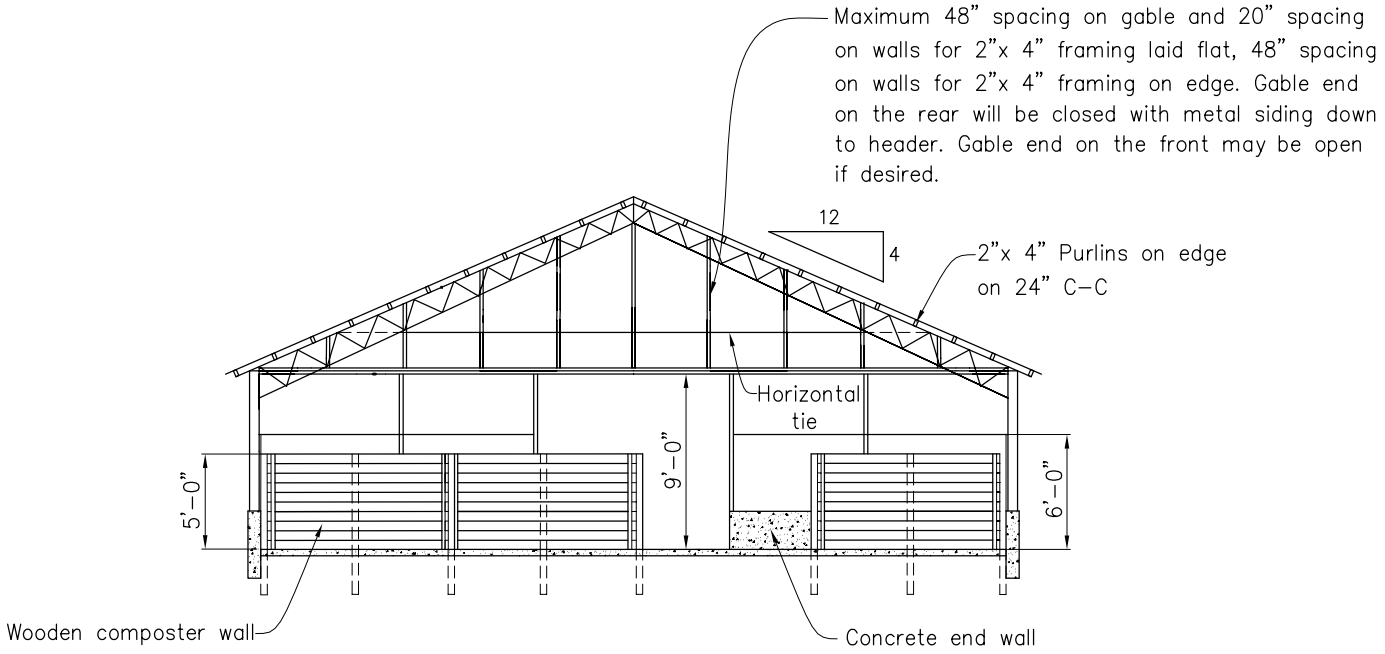
If you have any questions or comments pertaining to the revised drawings, contact your Resource Engineer.

/s/ M. Darrel Dominick

M. DARREL DOMINICK
State Conservationist

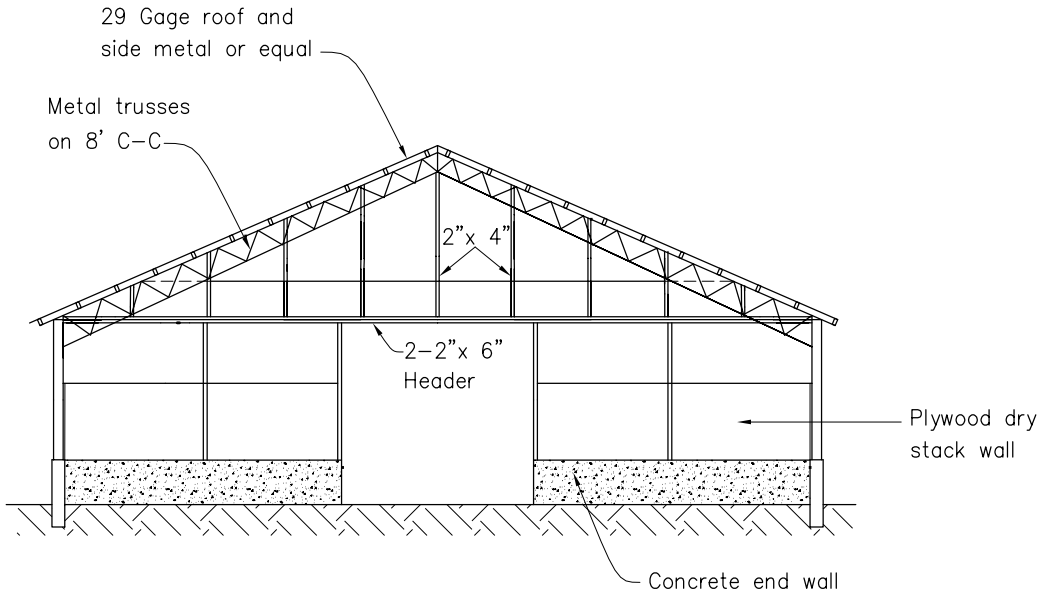
Attachment

DIST: AE



FRONT VIEW

DRY STACK/COMPOSTER STRUCTURE



FRONT VIEW

CAKEOUT STORAGE STRUCTURE

(NOT TO SCALE)

NOTES:

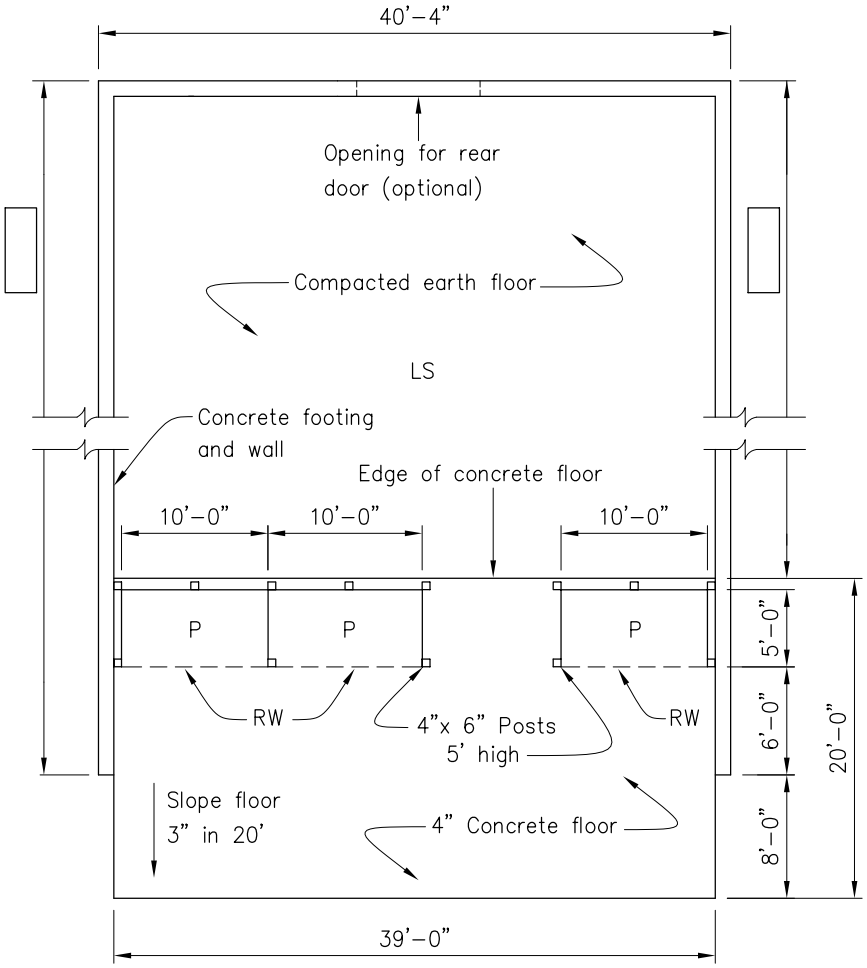
1. All component notes are common to both structures.
2. Optional metal side walls must not encroach to an area within 2 ft. from the bottom of the eave.

_____ FARM

DRY STACK/COMPOSTER
AND CAKEOUT STORAGE STRUCTURES
_____ COUNTY, OKLAHOMA

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Designed W. PRINCE 4/96		Approved by _____	
Drawn T. POTTER 6/04		Title _____	
Traced _____		Sheet No. 1 Of 5	Drawing No. OK–DWG–No. 414o
Checked D. HICKMAN 6/04			

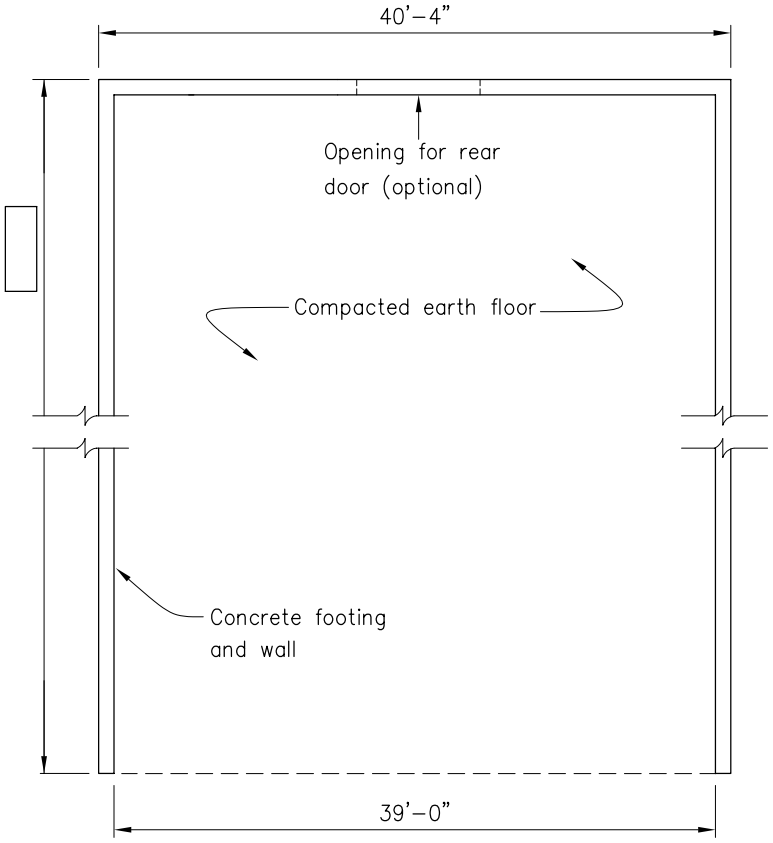


PLAN VIEW

DRY STACK/COMPOSTER STRUCTURE

LEGEND

RW – Removable wall
LS – Litter storage
P – Primary cell, 5' X 5' X 10'



PLAN VIEW

CAKEOUT STORAGE STRUCTURE

This practice meets
NRCS specifications _____ Date _____

(NOT TO SCALE)

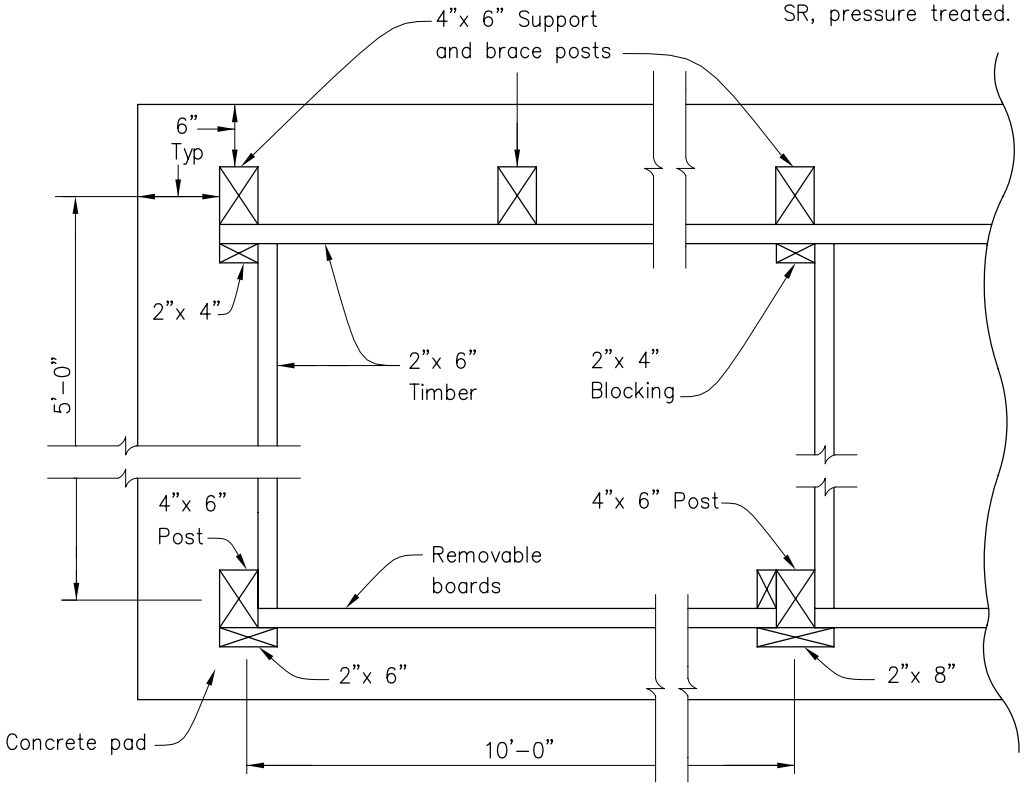
_____ FARM

DRY STACK/COMPOSTER
AND CAKEOUT STORAGE STRUCTURES
_____ COUNTY, OKLAHOMA

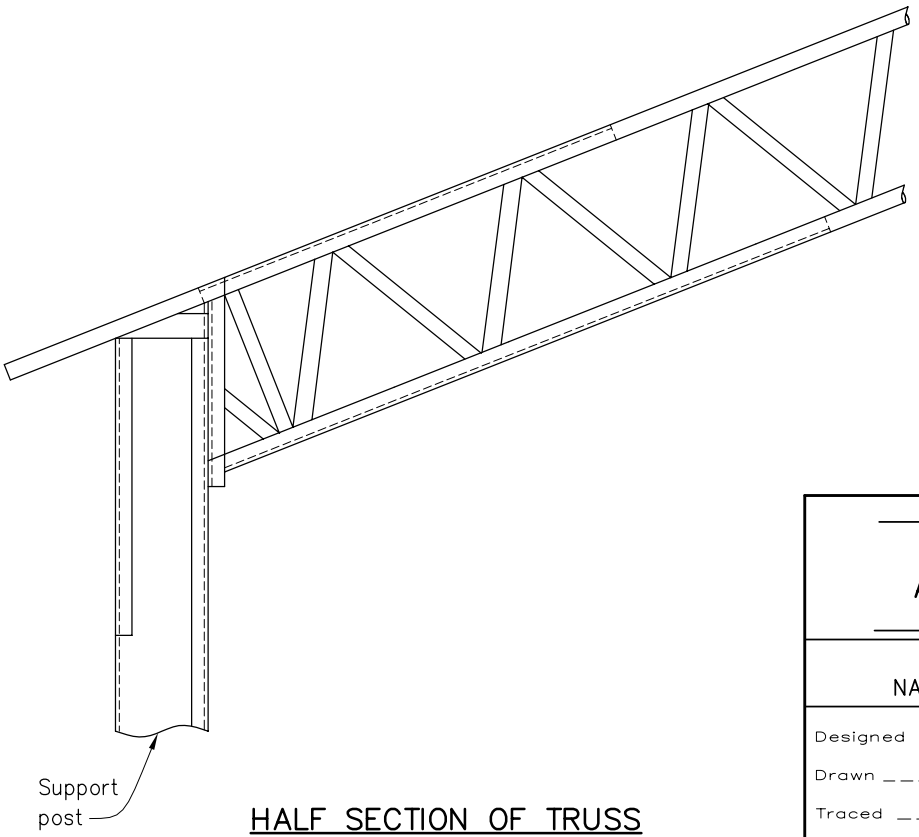
U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Designed W. PRINCE 4/96	Approved by _____	
Drawn T. POTTER 7/02	Title _____	
Traced _____	Sheet No. 2 Of 5	Drawing No. OK–DWG–No. 414o
Checked D. HICKMAN 7/02		

NOTE: Post configuration may vary due to building layout. Metal plates, strips or angle iron may be bolted to posts with lag scews to hold removable boards to make removal easier. All wall lumber shall be No. 2 SR, pressure treated.



TYPICAL COMPOSTER WALL DETAILS



HALF SECTION OF TRUSS

NOTE:

Stiffener shall be fabricated by the truss manufacturer as designed by a registered professional engineer.

(NOT TO SCALE)

_____ FARM

DRY STACK/COMPOSTER
AND CAKEOUT STORAGE STRUCTURES

_____ COUNTY, OKLAHOMA

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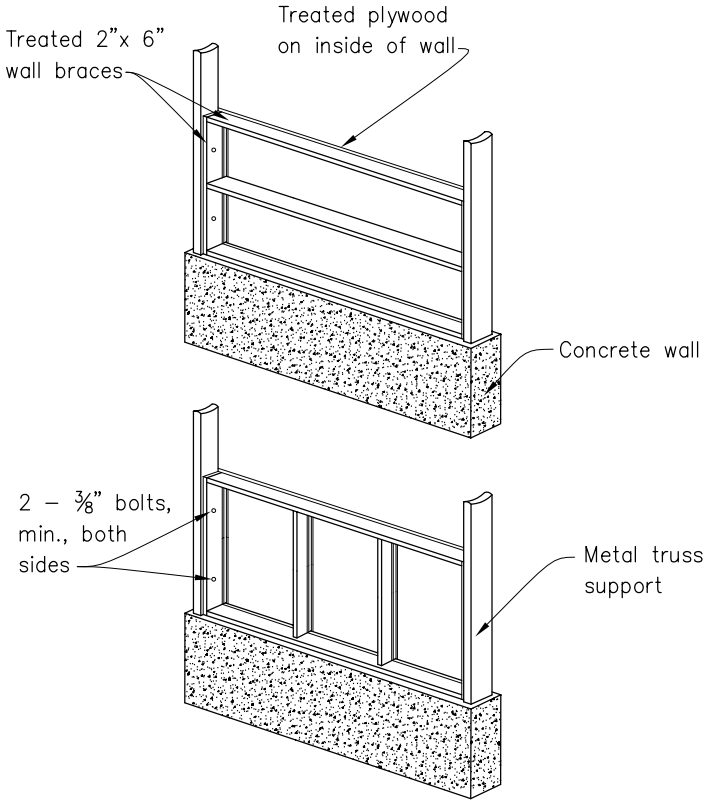
Designed	W. PRINCE 4/96	Approved by	_____
Drawn	T. POTTER 7/02	Title	_____
Traced	_____	Sheet No. 3 Of 5	Drawing No. OK-DWG-No. 414o
Checked	D. HICKMAN 7/02		

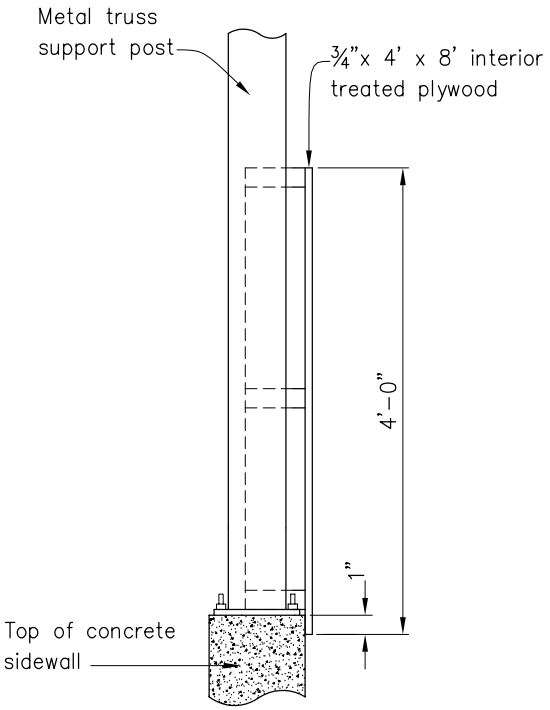
NOTE:

Fasten 2"x 6" wall braces together with 3 – 16d galvanized nails per connection, min. Fasten plywood to braces with 10d galvanized nails on 12" spacing along the braces, min. 2"x 6" wall braces will be pressure treated unless exterior is enclosed completely.

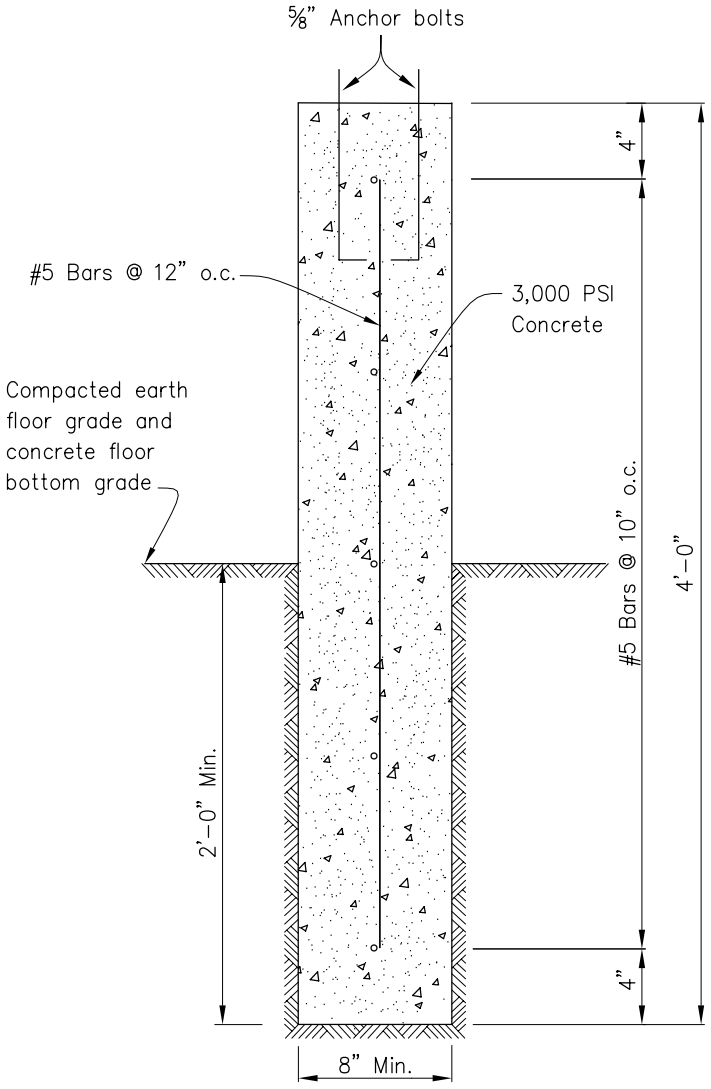


PLYWOOD WALL BRACING DETAIL

(TYPICAL OPTIONS)



PLYWOOD AND SIDEWALL DETAIL



CONCRETE WALL AND FOUNDATION DETAIL

NOTE:

Anchor bolt spacing to be adjusted to fit bottom flange of metal truss support.

(NOT TO SCALE)

_____ FARM

DRY STACK/COMPOSTER
AND CAKEOUT STORAGE STRUCTURES

_____ COUNTY, OKLAHOMA

U.S. DEPARTMENT OF AGRICULTURE
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Designed	W. PRINCE 4/96	Approved by	
Drawn	T. POTTER 6/04	Title	
Traced		Sheet No. 4 Of 5	Drawing No. OK–DWG–No. 414o
Checked	D. HICKMAN 6/04		

DRY STACK/COMPOSTER STRUCTURE						
Number of Birds	Primary Bins Number Required	Building Lengths (ft.)				
		Overhang	Primary Bins	Secondary Storage	Cakeout Storage	Total Length
20,000	2	6	5	1	15	27
25,000	2	6	5	1	18	30
30,000	2	6	5	1	20	33
35,000	2	6	5	1	23	35
40,000	2	6	5	2	26	38
45,000	2	6	5	2	29	41
50,000	2	6	5	2	31	44
55,000	2	6	5	2	34	47
60,000	2	6	5	2	37	50
65,000	3	6	5	3	40	53
70,000	3	6	5	3	42	56
75,000	3	6	5	3	45	59
80,000	3	6	5	3	48	62
85,000	3	6	5	3	51	65

NOTES:

1. Total building lengths may be rounded up to the next 4 foot interval to facilitate construction.
2. Dimensions shown are for a 40 foot truss span to the outside of the posts.
3. Concrete pad shall extend 6" min. outside all composter brace posts, except adjacent to concrete sidewall.
4. All lumber must be treated except for rafters, purlins and cross braces.
5. Dry stack support posts shall be a metal post fabricated by the truss manufacturer as designed by a registered professional engineer.
6. Trusses shall be designed for a combined live and dead loading of 25 PSF by a registered professional engineer and shall be installed as designed.
7. All nails, bolts, nuts and washers which will be in contact with the wastes shall be galvanized.
8. Planks are to be 2" x 8" No. 2 SR, pressure treated wood of variable lengths.
9. Cleats to secure removable planks may be 2" x 2" wooden cleats or 2" x 1 ½" angle iron.
10. Top 3 planks between primary and secondary bins are to be removable. Support with 2" x 6" blocks attached to both sides of 4" x 6" post.
11. Attach purlins to rafters with manufactured framing anchors.
12. All composter wall bolts shall be ⅝" diameter with washer at both ends.
13. All composter wall 16d nails shall be galvanized ring shanked.

CAKEOUT STORAGE STRUCTURE			
Number of Birds	Building Lengths (ft.)		
	Overhang	Cakeout Storage	Total Length
20,000	6	15	21
25,000	6	18	24
30,000	6	20	26
35,000	6	23	29
40,000	6	26	32
45,000	6	29	35
50,000	6	31	37
55,000	6	34	40
60,000	6	37	43
65,000	6	40	46
70,000	6	42	48
75,000	6	45	51
80,000	6	48	54
85,000	6	51	57
90,000	6	54	60
95,000	6	56	62
100,000 *	6	59	65

* For larger structures:
Building length = (# birds x 0.00055) + 9.75

_____ FARM

DRY STACK/COMPOSTER
AND CAKEOUT STORAGE STRUCTURES

_____ COUNTY, OKLAHOMA

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